



## Tutorial 2

# Developing a Basic Web Site

## Creating a Chemistry Web Site



# Objectives

- Define links and how to use them.
- Create element ids to mark specific locations within a document.
- Create links to jump between sections of the same document.
- Describe how to set and use anchors for backward compatibility with older browsers.



# Objectives

- List different types of Web site structures and how to employ them.
- Create links between documents.
- Create links to sections within a document.
- Define absolute and relative paths.



# Objectives

- Interpret the structure and content of a URL.
- Link to a page on the Web.
- Link to FTP servers, newsgroups, and e-mail addresses.
- Open links in a secondary window.



# Objectives

- Work with pop up titles and access keys.
- Create semantic links.
- Create link elements.



# Working with Links

- Using a **link** is a quicker way to access information at the bottom of a Web page than scrolling down.
- A user can select a link in a Web page, usually by clicking it with a mouse, to view another topic or document, often called the **link's destination**.



# Creating Element Ids

- One way to identify elements in an HTML document is to use the **id attribute**.
- **Id names** must be unique.
- **Id names** are not case sensitive.



# Creating Links Within a Document

- To create a link within a document, you enclose the content that you want to format as a link in an `<a>` tag, and use the href attribute to identify the link target.
- A link's content is not limited to text.
- Generally, a link should not contain any block-level elements.



# Creating Links Within a Document

The screenshot shows a website titled "MR. DUBÉ'S CHEMISTRY CLASSES AT ROBERT SERVICE HIGH SCHOOL". At the top, there is a navigation menu with links for "Classes", "Grading", "Appointments", and "Safety". Below the menu is a welcome message from Mr. Dubé. The main content area lists several chemistry classes: "Conceptual Chemistry", "Chemistry I", "Applied Chemistry", and "Advanced Placement Chemistry". A red arrow points from the "Classes" link in the menu to the "Chemistry Classes" heading. Another red arrow points from the "Grading" link in the menu to the "Grading" heading. A third red arrow points from the "Appointments" link in the menu to the "Advanced Placement Chemistry" section. A callout box on the right states: "clicking a link in the list jumps the user to the correct heading in the page".



# Creating Anchors

- An **anchor element** marks a specific location within a document.
- Since you create **anchors** with the same `<a>` tag that you use to create links, anchor content can also include most inline elements and empty elements; however, anchors cannot include block-level elements.
- Inserting an **anchor** does not change your document's appearance. It just creates a destination within your document.



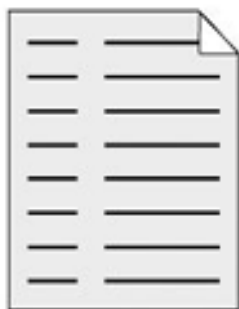
# Working with Web Site Structures

- A **storyboard** is a diagram of a Web site's structure, showing all the pages in the site and indicating how they are linked together.
- It is important to **storyboard** your Web site before you start creating your pages in order to determine which structure works best for the type of information the site contains.
- A well-designed structure can ensure that users will be able to navigate the site without getting lost or missing important information.



# Working with Web Site Structures

## The three chemistry pages



chemistry page

The chemistry page contains descriptions of the chemistry classes and policies



contacts page

The contacts page describes how to contact the chemistry faculty



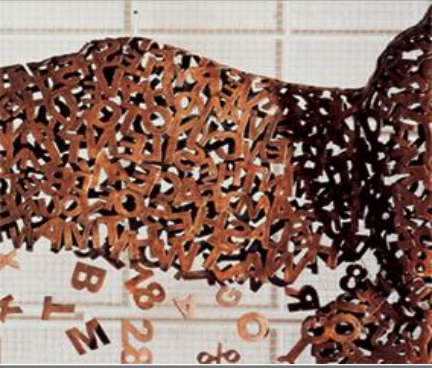
links page

The links page contains links to interesting chemistry Web sites



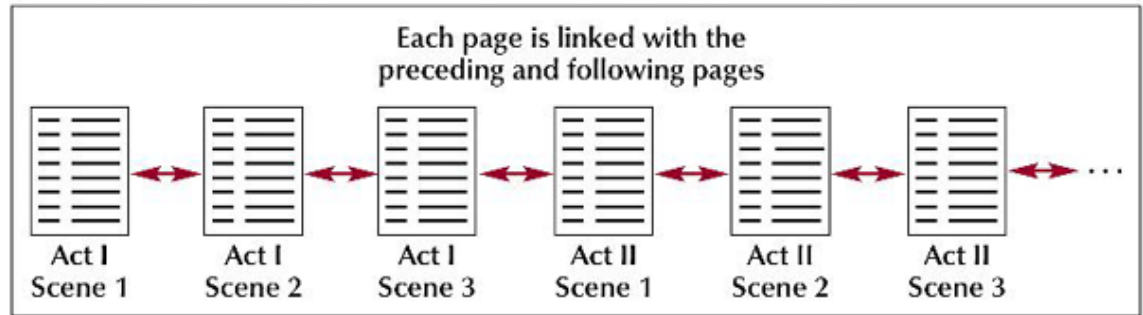
# Linear Structures

- In a **linear structure**, each page is linked with the pages that follow and precede it in an ordered chain.
- **Linear structure** works best for Web pages with a clearly defined order.
- In an **augmented linear structure**, each page contains an additional link back to an opening page.

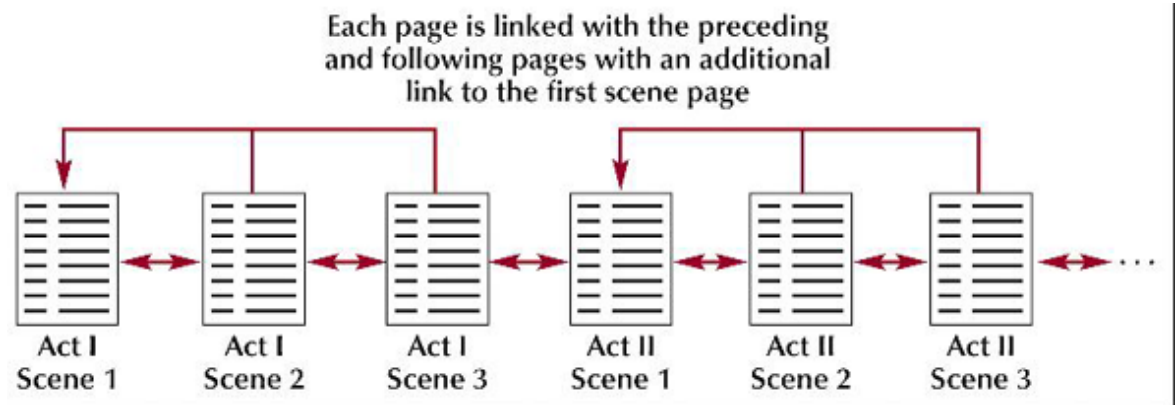


# Linear Structures

A linear structure



An augmented linear structure



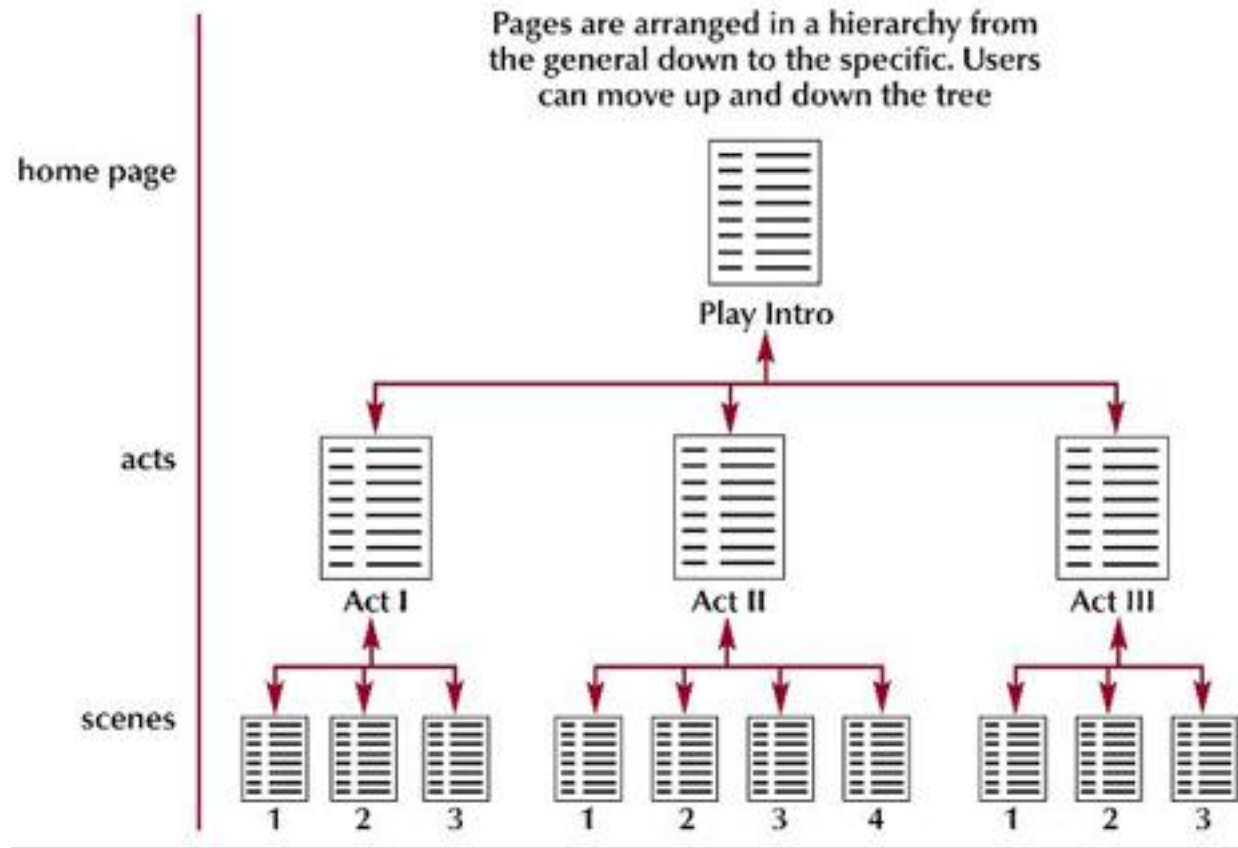


# Hierarchical Structures

- In the **hierarchical structure**, the pages are linked going from the most general page down to more specific pages.
- Users can easily move from general to specific and back again.
- Within this structure, a user can move quickly to a specific scene within the page, bypassing the need to move through each scene in the play.



# Hierarchical Structures



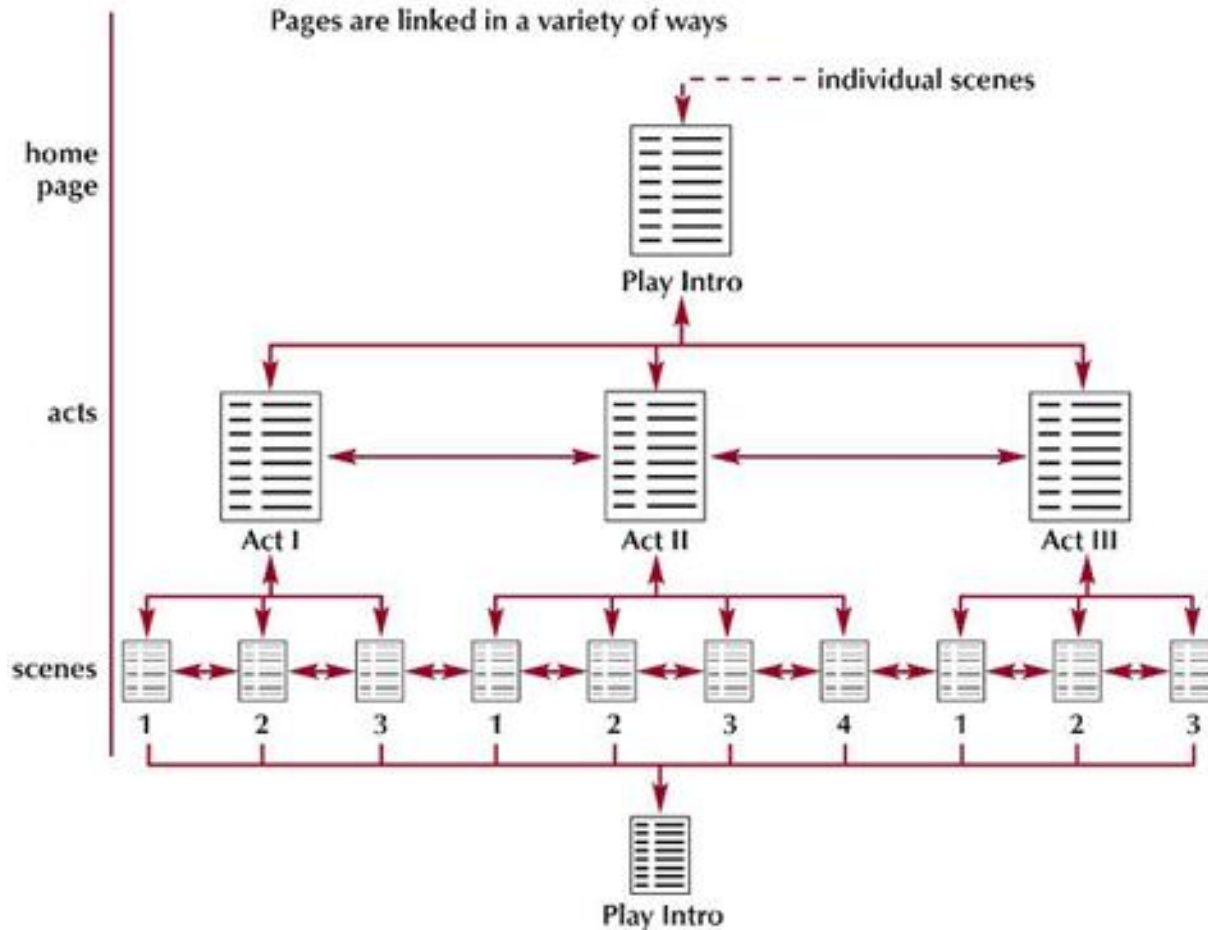


# Mixed Structures

- As Web sites become larger and more complex, you often need to use a combination of several different structures.
- The overall form can be **hierarchical**, allowing the user to move from general to specific; however, the links also allow users to move through the site in a **linear** fashion.



# Mixed Structures



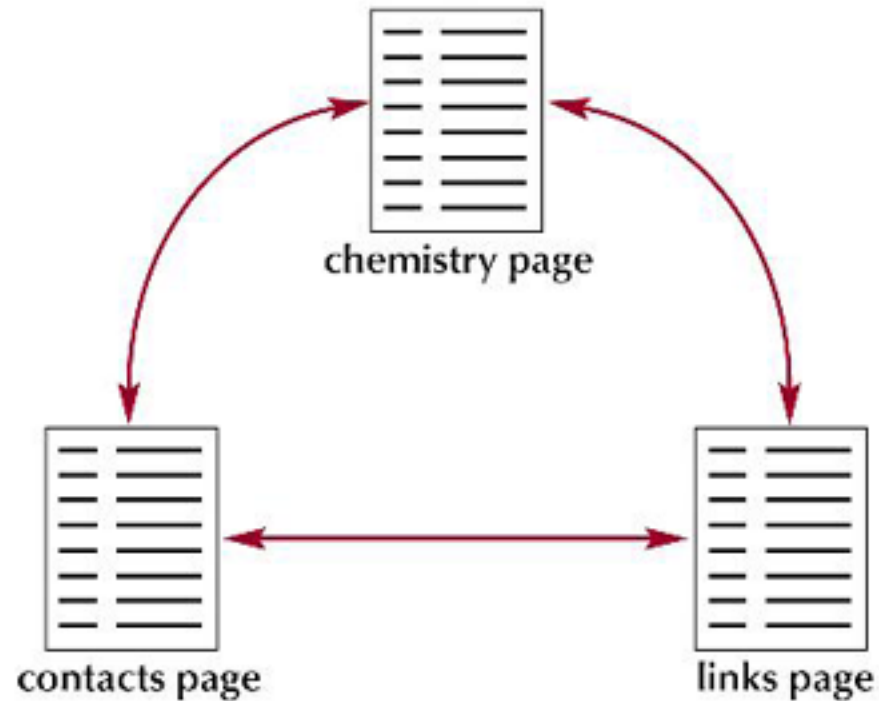


# Working with Web Site Structures

- A little foresight can go a long way toward making your Web site easier to use.
- Each page should contain, at minimum, a link to the site's home page, or to the relevant main topic page, if applicable.
- You may want to supply your users with a **site index** which is a page containing an outline of the entire site and its contents.



# Creating Links Between Documents





# Creating Links Between Documents

- To link to a page, you specify the name of the file using the href attribute of the `<a>` tag.
- Filenames are case sensitive on some operating systems, including the UNIX and Macintosh, but not on others.
- The current standard is to use lowercase filenames for all files on a Website and to avoid special characters such as blanks and slashes.
- You should also keep filenames short to avoid typing errors.



# Linking to a Location Within Another Document

- When linking to a location within another document, you must use the **anchor** name of the location within the document and the filename.

```
<a href = "file#id">content</a>
```

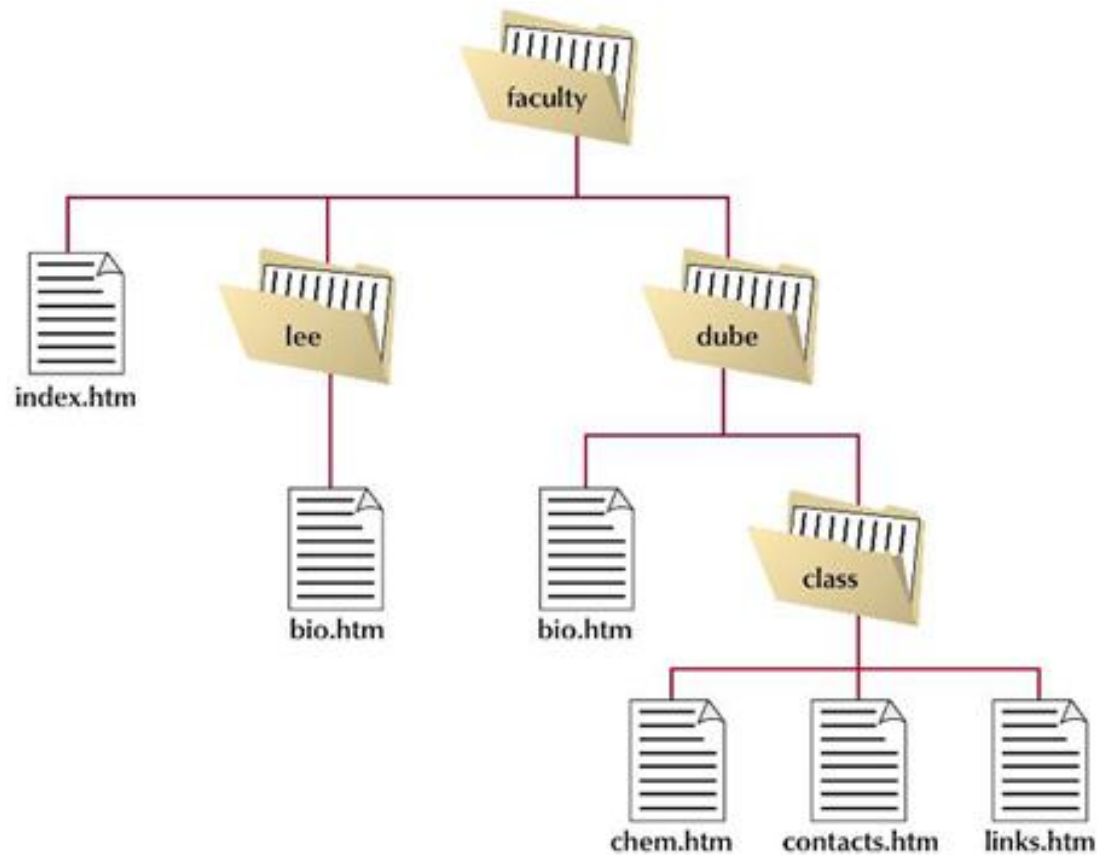


# Linking to Documents in Other Folders

- To create a link to a file located in a different folder than the current document, you must specify the file's location, or **path**, so that browsers can find it.
- HTML supports two kinds of paths: **relative** and **absolute**.
- An **absolute path** specifies a file's precise location within a computer's entire folder structure.



# A Sample Folder Tree





# Relative Paths

- A **relative path** specifies a file's location in relation to the location of the current document.
- If the file is in the same location as the current document, you do not have to specify the folder name.
- If the file is in a subfolder of the current document, you have to include the name of the subfolder.



# Relative Paths

- If you want to go one level up the folder tree, you start the **relative path** with a double period (..) and then provide the name of the file.
- To specify a different folder on the same level, known as a **sibling folder**, you move up the folder tree using the double period (..) and then down the tree using the name of the **sibling folder**.
- You should almost always use **relative paths** in your links.



# Changing the Base

- The **base element** is useful when a document is moved to a new folder. Rather than rewriting all of the relative paths to reflect the document's new location, the base element can redirect browsers to the document's old location, allowing any relative paths to be resolved.
- The **base element** is useful when you want to create a copy of a single page from a large Web site on another Web server.



# Understanding URLs

- To create a link to a resource on the Internet, you need to know its **URL**.
- A **Uniform Resource Locator (URL)** specifies the precise location of a resource on the Internet.
- A **protocol** is a set of rules defining how information is exchanged between two resources.



# Understanding URLs

- Your Web browser communicates with Web servers using the **Hypertext Transfer Protocol (HTTP)**.
- The **URLs** for all Web pages must start with the scheme “http”.
- Other Internet resources use different **protocols** and have different scheme names.



# Common Communication Protocols

Protocol	Used to
file	access documents stored locally on a user's computer
ftp	access documents stored on an FTP server
gopher	access documents stored on a gopher server
http	access Web pages stored on the World Wide Web
mailto	open a user's e-mail client and address a new message
news	connect to a Usenet newsgroup
telnet	open a telnet connection to a specific server
wais	connect to a Wide Area Information Server database



# Linking to a Web Page

A sample URL for a Web page

<http://www.mwu.edu/course/info.html#majors>

http	://www.mwu.edu	/course/info.html	#majors	
protocol	server	path	filename	id or anchor name



# Linking to a Web Page

- If a **URL** includes no path, then it indicates the topmost folder in the server's directory tree.
- If a **URL** does not specify a filename, the server searches for a file named "index.html" or "index.htm".



# Linking to FTP Servers

- FTP servers are one of the main sources for storing files on the Internet.
- FTP servers transfer information using a communications protocol called File Transfer Protocol, or FTP for short.
- An FTP server requires each user to enter a password and a username to access its files.



# Linking to FTP Servers

An FTP site as it appears in Internet Explorer





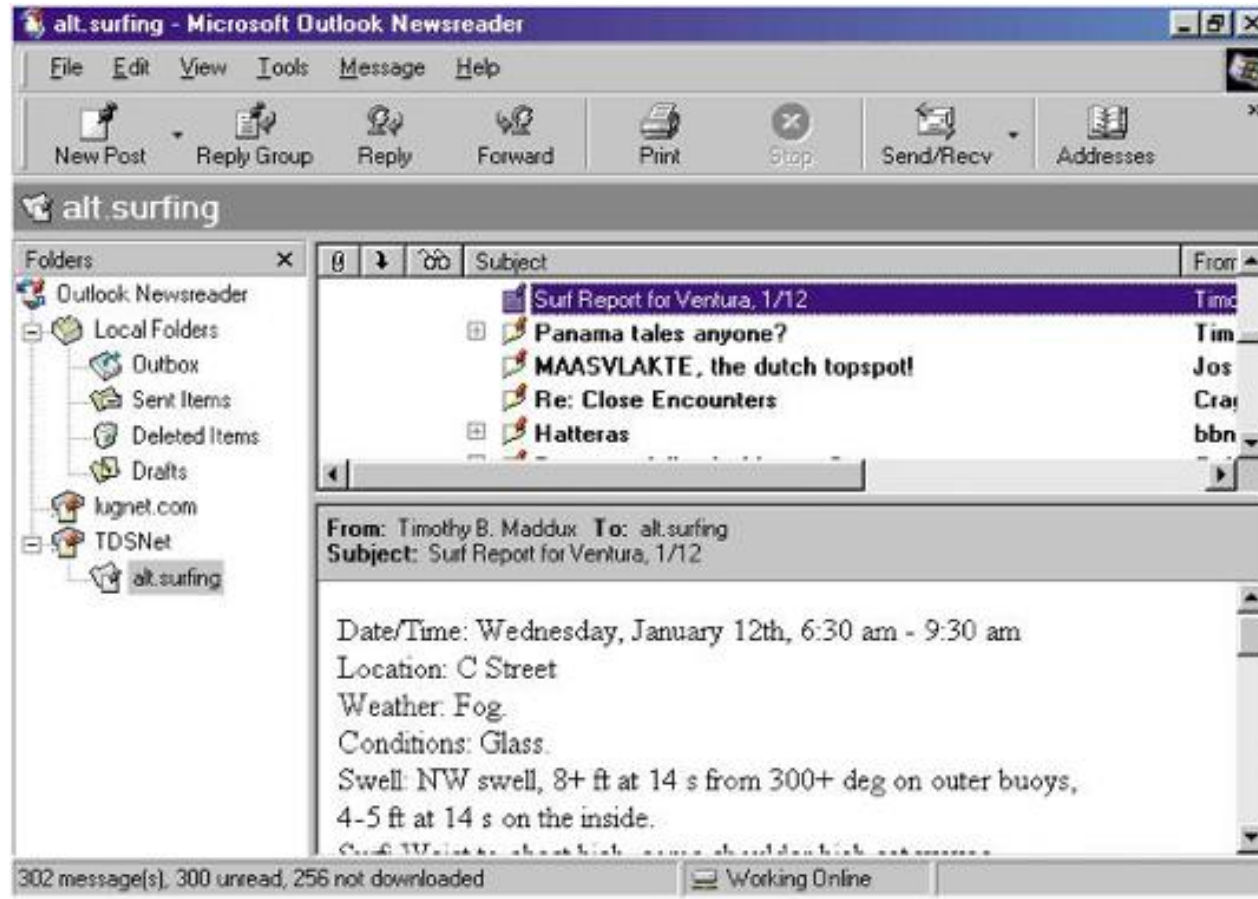
# Linking to Usenet News

- **Usenet** is a collection of discussion forums called **newsgroups** that let users publicly exchange messages with each other on a wide variety of topics.
- When you click a link to a **newsgroup**, your computer opens a program for reading **newsgroups**, known as newsreader, displaying the latest messages from the **newsgroup**.



# Linking to Usenet News

## A Sample Newsreader





# Linking to a Local File

- On occasion, you may see the URL for a file stored locally on your computer or local area network.
- If you are accessing a file from your own computer, the server name might be omitted and replaced by an extra slash (/).
- The file scheme here does not imply any particular communication protocol; instead the browser retrieves the document using whatever method is the local standard for the type of file specified in the URL.



# Linking to E- mail

- Many Web sites use e-mail to allow users to communicate with a site's owner, or with the staff of the organization that runs the site.
- You can turn an e-mail address into a link, so that when a user clicks on an address, the browser starts an e-mail program and automatically inserts the address into the "To" field of the new outgoing message.



# Linking to E- mail

- The effect of e-mail links on increasing **Spam** is a concern.
- **Spam** is unsolicited junk e-mail set to large numbers of people, promoting products, services, and in some cases, pornographic Web sites.
- **Spammers** create their e-mail lists through scanning Usenet postings, stealing Internet mailing lists, and using programs called e-mail harvesters that scan HTML code on the Web looking for the e-mail addresses contained in mailto URLs.



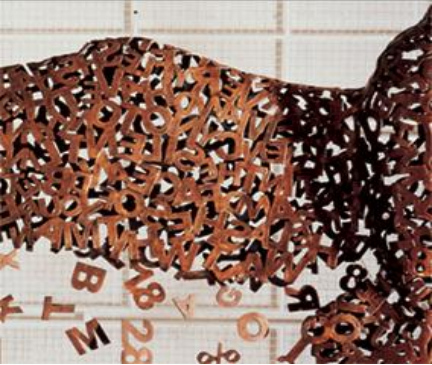
# Linking to E- mail

- If you need to include an e-mail address in your Web page, you can take a few steps to reduce problems with spam:
  - Replace all e-mail addresses in your page with inline images of those addresses.
  - Write a program in a language like JavaScript to scramble any e-mail address in the HTML code.
  - Replace the characters of the e-mail address with character codes.
  - Replace characters with words in your Web page's text.



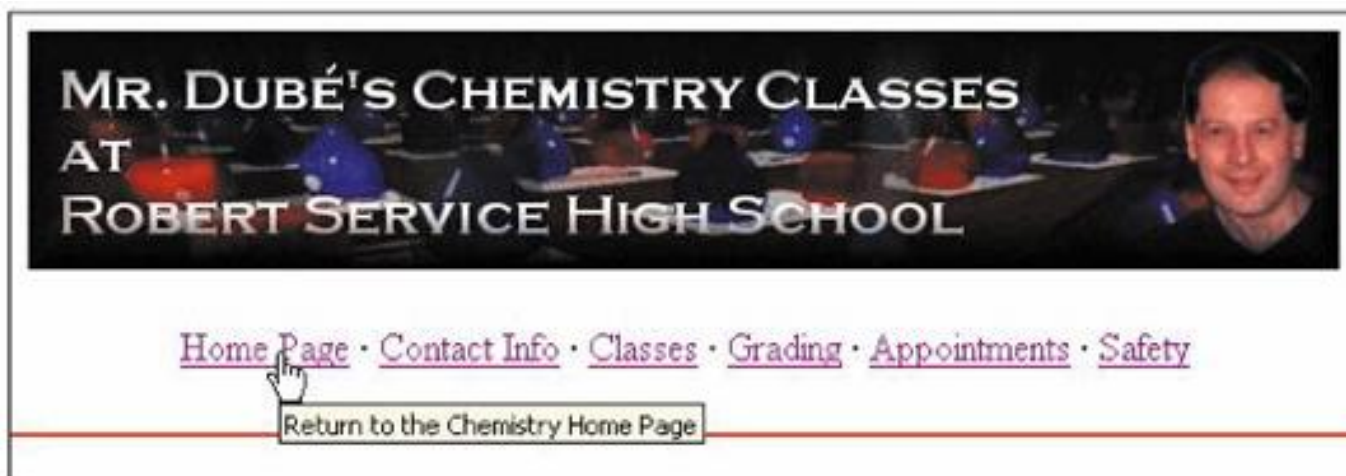
# Working with Hypertext Attributes

- HTML provides several attributes to control the behavior and appearance of your links.
- You can force a document to appear in a new window by adding the **target attribute** to the tag `<a>` tag.
- If you want to provide additional information to your users, you can provide a **popup title** to your links.
- A **popup title** is a descriptive text that appears whenever a user positions the mouse pointer over a link.



# Working with Hypertext Attributes

- Since only some browsers support **popup titles**, you should not place crucial information in them.





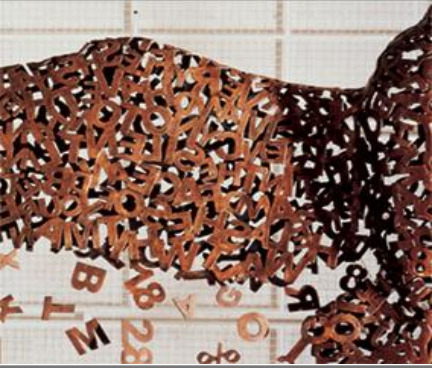
# Creating an Access Key

- Another way to activate a link is to assign a keyboard key, called an **access key**, to the link.
- To use an **access key**, you hold down an accelerator key (usually the Alt key in Windows or the Ctrl key on a Macintosh) and then press the specified key.
- **Access keys** are impractical in most situations because most access keys are already reserved by the browser.
- It is difficult to indicate to the user which **access key** to press in order to activate a link.



# Creating a Semantic Link

- Two attributes, **rel** and **rev**, allow you to specify the relationship between a link and its destination.
- The **rel** attribute describes the content of the destination document.
- The **rev** attribute complements the **rel** attribute by describing the contents of the source document as viewed from the destination document's perspective.



# Creating a Semantic Link

- Links containing the **rel** and **rev** attributes are called **semantic links** because the tag contains information about the relationship between the link and its destination.
- A browser can use the information that these attributes provide in many ways—for example to build a custom toolbar containing a list of links specific to the page being viewed.



# Link Types

Link Types	Description
alternate	References a substitute version of the current document, perhaps in a different language or in a different medium
stylesheet	References an external style sheet
start	References the first document in a collection of documents
next	References the next document in a linear sequence of documents
prev	References the previous document in a linear sequence of documents
contents	References a table of contents
index	References an index
glossary	References a glossary
appendix	References an appendix
copyright	References a copyright statement
chapter	References a document serving as a chapter in a collection of documents
section	References a document serving as a section in a collection of documents
subsection	References a document serving as a subsection in a collection of documents
help	References a Help document
bookmark	References a bookmark



# Using the Link Element

- Another way to add a link to your document is to add a **link element** to the document's head.
- **Link elements** are intended only for the browser's use.
- **Link elements** have primarily been used to link style sheets.
- Because no single list of relationship names is widely accepted, you must check with each browser's documentation to find out what relationship names it supports.



# Summary

- You can create links within a single document.
- You can mark a location within a document by using ids and anchors.
- You can create links between documents within a Web site.
- Storyboarding is an important part of Web page development.



# Summary

- You can reference files in different folders using relative and absolute paths.
- You can create links to different resources on the Internet including: Web pages, FTP servers, newsgroups, and e-mail addresses.
- You can use HTML attributes to open links in new windows, display popup titles, create access keys, and specify link relationships.